

The mitigation ratio of 2.0 to 1.0 is for impacts that are less than 0.5 acres in size and the mitigation is in-basin. The mitigation ratio of 3.0 to 1.0 is for impacts that are less than 0.5 acres in size with mitigation out-of-basin. The mitigation ratio of 5.5 to 1.0 is for impacts that are greater than 0.5 acres in size with mitigation out-of-basin. The total mitigation required for the Preferred Alternative is 8.69 hectares (21.48 acres); Alternate 1 would have similar mitigation requirements as the Preferred Alternate. Alternates 11 and 12 would require approximately 73.36 acres of mitigation. The remaining alternates would fall between these two extremes.

## 4.10 Special Waste

The 2003 PESA concluded that if soil excavation or additional right-of-way is required beyond certain limits, at either the Amoco Pipeline on U.S. Route 20 east of Woodbine (Site 414A-5) or the Wards Grove Township Garage and Maintenance Facility (Site 414A-6), then further soil sampling and analysis would be required to determine the precise nature and extent of contamination. Should any of the disturbed soils be identified as contaminated above residential levels, the soils will be managed and disposed of at a licensed and approved facility. If excavation and utility relocation do not exceed the following maximum depths at each site, then no additional sampling and analysis would be required:

### **Amoco Pipeline on U.S. Route 20 (Site 414A-5)**

- 2.4 meters (8 feet) within 15 meters (50 feet) of soil boring 414A-5a
- 1.2 meters (4 feet) within 15 meters (50 feet) of soil boring 414A-5b

### **Wards Grove Township Garage and Maintenance Facility (Site 414A-6)**

- 0.6 meters (2 feet) within 15 meters (50 feet) of soil boring 414A-6a

If right-of-way acquisition includes a parcel with an underground storage tank(s), and the Department's *Land Acquisition Procedures* are followed, then no additional preliminary testing is necessary.

Other environmental issues must also be considered when encountering residential property. Buildings constructed prior to 1970 may have asbestos-containing material as components in floor tile, wall and pipe insulation, roofing materials, patching or paint compounds, ceiling materials, and stove/furnace insulation. Asbestos discovered in any buildings to be demolished will require special removal prior to demolition. All structures to be demolished or removed for the construction of any of the alternates will be surveyed prior to construction activities to ascertain the presence of any hazardous materials including, but not necessarily limited to, asbestos materials.

Alternate 2 will not involve nor impact any CERCLIS sites. A petroleum site with a regulated substance will be involved, but since the project will not involve the excavation of contaminated soil, there is no impact.

Hazardous material contamination is an area of concern from operational use of the proposed roadway. The improved means of travel provided by the proposed project will probably draw more transport of hazardous materials through the area. However the chance of an accidental spill is minimal. If an accidental toxic spill were to occur, the Illinois Emergency Management Agency (IEMA) would be notified as soon as possible so that the spill could be contained and risks to public health and the environment minimized.



## 4.11 Types of Permits

### 4.11.1 Federal

#### Section 404

Certain activities in the streams of the project area may require a Section 404 permit from the USACOE for the discharge of dredged or fill material into waters of the United States. The Corps issues either an Individual or Nationwide Permit. An Individual Permit is usually required for potentially significant impacts. Stream crossings that require a USACOE permit are listed in Table 4-40.

### 4.11.2 State

#### Section 401 Water Quality Certification

All Section 404 permits require a Section 401 Water Quality Certification review by the IEPA. IEPA must approve or waive the water quality certification as a condition for issuance of an Individual Section 404 permit or for use of a Nationwide Section 404 permit.

#### Section 402 National Pollutant Discharge Elimination System Construction Permit

This project will result in the disturbance of two or more hectares (five acres) of total land area. Accordingly, it is subject to the requirement for a Section 402 National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges from construction sites. Permit coverage for the project will be obtained either under the IEPA General Permit for Stormwater Discharges from Construction Site Activities (NPDES Permit No. ILR10) or under an individual NPDES permit.

#### Construction in Floodways of Rivers, Lakes, and Streams Permit

A permit for construction in regulatory floodways and public waters will need to be obtained from the Illinois Department of Natural Resources, Office of Water Resources. This permit is required for construction in the floodway of streams serving a tributary area of 259 hectares (640 acres) or more in an urban area or 2,590 hectares (6,400 acres) or more in a rural area.

#### Groundwater Management

Project related activities may be restricted in regulatory setback zones. IEPA has jurisdiction over setback zone restrictions and will need to be consulted regarding applicability for this project. Proposed project related activities may be considered new potential sources of contamination. Waivers and exceptions to minimum setback zone prohibitions can be acquired.

#### Burning/Disposal Permits

The contractor will be responsible for the disposal of all excess materials generated by the proposed construction, including organic materials, soil, rock, trees/shrubs, etc. A permit shall be obtained from IEPA prior to open burning of organic waste (i.e., plant refuse resulting from pruning or removal of trees/shrubs) or other construction or demolition debris. Organic waste originating within the right-of-way limits may be chipped or shredded and placed as mulch around landscape plantings within the right of way (IDOT 2001).



## Demolition of Structures

IEPA requires notification of demolition and renovation of structures. As the proposed project will require building demolition, appropriate notifications and coordination will be required.

## State Historic Preservation Office Approval

Archaeological and historical surveys were conducted as part of the project compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. State Historic Preservation Office coordination is provided in Appendix E.

## 4.11.3 Local

### Groundwater Management

Local communities enforce nonregulatory groundwater management practices such as activity restrictions within Wellhead Protection Areas and zoning ordinances. Local communities will need to be consulted regarding the applicability of the proposed project.

## 4.12 Visual/Aesthetics

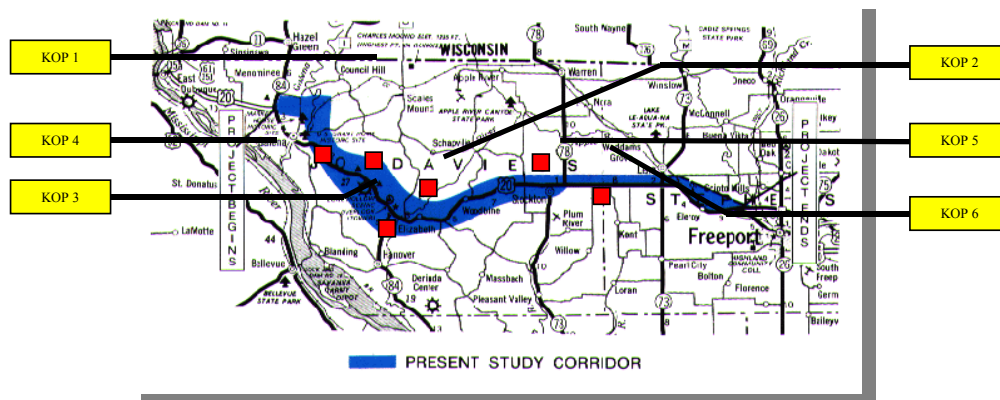
To define and assess the visual impacts of the proposed Alternates, six (6) photo-simulated Key Observation Points (KOP) were created and measured for contrast with the existing landscape. The process identifies areas in which the visual resource classification objectives have not been met and why. This information then serves as the basis for identifying appropriate mitigation design.

### 4.12.1 Identifying Key Observation Points

Typical key views, were used to assess the impact of the proposed project. Six KOPs were selected based on a series of criteria that represent the full spectrum of construction impacts. Potential typical views include:

- Key views representative of the three main landscape types.
- Key views representative of Class 1 and 2 resource areas.
- Key views of various construction impacts such as structures, cut/fill slopes and culverts.

The KOPs provide a basis for comparison between the proposed project and the three resource classification objectives. The locations of the six KOPs are depicted below.



#### **4.12.1.1 Photo Simulation of Proposed Alternates**

Photo simulations of the six KOPs were produced by superimposing computer generated three-dimensional simulations of the road, cut/fill slopes and/or structures over a photo taken at each KOP point in the field. In depicting the appearance of the project through simulations, the relative scale and extent was realistically portrayed to adequately assess potential visual impacts.

The following exhibits (Exhibits 1 through 6) present the six KOPs which illustrate the existing and build conditions with the proposed Alternates.

#### **4.12.2 Assessing Visual Impacts**

A systematic process called the 'Contrast Rating System' (CRS) was used to assess the potential visual impacts of the proposed Alternates. Under the CRS, the degree of impact on the visual quality of the landscape depends on the visual contrast created between the proposed construction and the existing landscape. For those areas not illustrated by KOPs, Department engineers will compare the proposed construction against the Visual Resource Class Objectives using this same contrast analysis method.

##### **4.12.2.1 Assessing Contrasts**

Contrasts were identified between the existing landscape KOP photos and the photo simulated KOPs using a Contrast Rating Worksheet provided by the BLM. A comparison between the visual resource class objectives and contrasts provided a means for determining visual impacts and for identifying measures for mitigation.

Each of the proposed and existing KOPs were compared in terms of the change in both visual elements and landscape features. The greater the change in both the visual elements and landscape features, the larger the degree of contrast.

The visual elements and landscape features used to determine the degree of contrast are shown below.

1. Visual Elements
  - line
  - form
  - color
  - texture
2. Landscape Features
  - land/water
  - vegetation
  - structures
  - vistas

A contrast rating was determined for each of the existing condition photos and proposed KOP simulations to determine the degree of contrast. Where contrast ratings do not meet the Visual Resource Class Objectives, criteria mitigation measures are recommended.















#### 4.12.2.2 Comparing Contrasts and Resource Classification Objectives

The contrast rating established for each simulation was compared with the Visual Resource Class Objectives to determine if the objectives for the classification had been met. The four Levels of Contrast were then compared to the four Resource Classes as shown below:

<u>Contrast Rating</u>	<u>Resource Class</u>
None	One
Weak	Two
Moderate	Three
Strong	Four

#### 4.12.2.3 Contrast Rating Summary

According to the CRS process, four of the six KOPs would require some form of mitigation. Specifically, KOPs 1, 2, 3 and 4 would require mitigation due to a moderate to strong Contrast Rating. Since the contrast ratings and Visual Resource Class Objectives do not agree for these KOPs, mitigation measures are recommended. KOPs 5 and 6 met the Visual Resource Class Objectives and therefore, no mitigation is required. The matrix below summarizes the results of the Contrast Rating Evaluation.

### 4.12.3 Visual Impact Reduction

The objective of Visual Impact Reduction is to reduce the visual contrasts produced by the proposed Freeway and Expressway Alternates. This objective is based on repeating the basic elements of form, line, color and texture found in the existing landscape.

**CONTRAST RATING EVALUATION MATRIX**

K.O.P.	CLASS	WHERE VISUAL RESOURCE CLASS OBJECTIVES MET?	MITIGATION MEASURES
1	1	No	Yes
2	2	No	Yes
3	2	No	Yes
4	2	No	Yes
5	3	Yes	No
6	3	Yes	No

Previous visual impact studies conducted in 1992 and 1996 for the proposed project, addressed most of the major impacts including realignment to minimize disturbance of existing landscape features. As a result of these studies, previous Alternates such as Snipe Hollow were eliminated while most of the Alternates as discussed in this DEIS, were either revised or changed to lie more lightly on the land.

